REMARKS

Claims 1-17 are pending in the present application. Claims 1, 4 and 17 are independent. Reconsideration of this application, as amended, is respectfully requested.

Replacement Formal Drawings

In the Examiner's Office Action dated October 9, 2003, a Notice of Draftsperson's Patent Drawing Review dated October 27, 1999 was attached thereto. This Notice indicates that figures 1-14 of the drawings filed July 22, 1999 are objected to under 37 C.F.R. § 1.84(i), since the lines numbers and letters are not uniformly thick and well defined. As the Examiner will note, fourteen (14) sheets of replacement formal drawings have been provided in reply to this notice. The Examiner is respectfully requested to approve the fourteen (14) sheets of replacement drawings attached hereto.

Examiner Interview

An interview was conducted with the Examiner in charge of the above-identified application on or about December 4, 2003. In the Interview with the Examiner, the Office Action dated October 9, 2003 was discussed. It was explained to the Examiner that the statement of the rejection at paragraph 4 of the Examiner's Office Action was

incorrect in that the Kodaira et al., U.S. Patent No. 6,233,059 reference, rather than the Kusumoto et al., U.S. Patent No. 5,579,131 reference was cited in combination with the Tatsumi, U.S. Patent No. 5,745,262 reference under 35 U.S.C. § 103(a). The Examiner indicated that it was actually the Kusumoto et al. reference that was relied on by the Examiner.

In view of the above, the Examiner faxed a corrected Office Action on December 8, 2003, which clarified that the Kusumoto et al. reference was being relied on. The following remarks will be directed to the Examiner's Office Action faxed on December 8, 2003.

Rejections Under 35 U.S.C. § 103

Claims 1-9 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kusumoto et al., U.S. Patent No. 5,579,131 in view of Tatsumi, U.S. Patent No. 5,745,262. Claims 10-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kusumoto et al. in view of Imoto, U.S. Patent No. 5,246,948. These rejections are respectfully traversed.

The present invention is directed to an image reading method and apparatus. Independent claims 1 and 17 are directed to the method and independent claim 4 is directed to the apparatus.

Independent claim 1 of the present invention recites a combination of steps including the recitation "wherein a light quantity of light which is incident on said image sensor is balanced among colors in accordance with an original type by adjusting a light quantity of light which is issued from a light source and incident on an original in accordance with the original type."

Independent claim 4 of the present invention recites a combination of elements including "light quantity balance adjusting means for catching among colors a balance of light quantity of said light that is incident on said image sensor in accordance with the original type obtained by said original type acquiring means by adjusting light quantity of light which is issued from a light source and incident on an original in accordance with the original type, said light quantity balance adjusting means being provided between said light source and said original in accordance with the original type."

Independent claim 17 recites a combination of steps including "balancing said quantity of light which is incident on said image sensor among colors by adjusting said quantity of light which is issued from the light source and incident on the original with said light quantity adjusting device in accordance with a type of the original."

In the present invention, a light quantity adjusting filter 26 is exemplified by a filter having the spectral transmittance characteristic as shown in Fig. 8, which is the characteristic reverse to that of a color negative film base. The light quantity adjusting filter 26 is located between the light source 22 and the original F. In Kusumoto et al.,

the filter section 25 is located adjacent to the color CCD sensor and not between the lighting section 113 and the film 11. Applicant respectfully submits that this difference is sufficient to patentably distinguish the present invention from Kusumoto et al.

The Examiner recognizes the above difference between the presently claimed invention and Kusumoto et al.; however, the Examiner relies on the Tatsumi reference in order to modify Kusumoto et al. to arrive at the presently claimed invention. Applicant submits that the modification proposed by the Examiner would not have been obvious to one having ordinary skill in the art at the time the present invention was made.

In the Examiner's Office Action, the Examiner argues that column 8, lines 31-38 of Tatsumi disclose light quantity adjusting means being provided between a light source and an original. However, what Tatsumi actually discloses is a light amount adjusting means 51 for adjusting the amount of light produced by the light source itself and not the light quantity balance adjusting means of the presently claimed invention. In addition, the light amount adjusting means 51 of Tatsumi is provided at the light source 11 itself and not "between the light source and the original" as recited in independent claim 4 of the present invention or "issued from a light source and incident on an original" as recited in independent claims 1 and 17 of the present invention.

Referring to column 8, lines 23-26 of Tatsumi, the light amount adjusting means 51 of Tatsumi adjusts the amount of light produced by the light source 11 such that the

amount of light corresponds with the light amount set by the control means 40. Thus, it is apparent that the light amount adjusting means 51 of Tatsumi is for adjusting the amount of light produced by the light source 11 itself and not for catching among RGB colors a balance of light quantity of light that is incident from the light source 11 as in the present invention. Moreover, it is also apparent that the light amount adjusting means of Tatsumi is to affect the light source 11 itself for adjusting the amount of light produced and not to be provided between the light source and the original on the optical path. In other words, the light amount adjusting means of Tatsumi adjusts the intensity of the light actually emitted from the light source 11 and not the light on the optical path as in the presently claimed invention. Accordingly, Applicants submit that the Examiner's argument that the light amount adjusting means 51 of Tatsumi is the light quantity balance adjusting means of the present invention is based on an erroneous interpretation of the Tatsumi reference and is therefore improper.

In view of the above, Applicant submits that the light amount adjusting means 51 of Tatsumi is non-analogous to the filter section 25 of Kusumoto et al., and therefore it would not be obvious in view of this teaching to modify the Kusumoto et al. reference in the manner suggested by the Examiner.

In addition to the above, Applicant submits that the Examiner has failed to establish a *prima facie* case of obviousness in the present situation. The Examiner merely states that it would be obvious to locate the filter as disclosed by Tatsumi "to

produce an amount of light that has been adjusted as taught by Tatsumi." Applicant submits that this is not sufficient motivation to modify the Kusumoto et al. reference in the manner suggested by the Examiner. In addition, the Kusumoto et al. reference specifically discloses that it is advantageous to locate the filter section 25 in front of the CCD sensor 112 in order to be able to make the filter section 25 small (see column 5, lines 19-24). In view of this, Applicants submit that the Examiner's modification is contrary to the teachings of Kusumoto et al. and therefore non-obvious.

The following comments are also offered for the Examiner's consideration. In the present invention, the light quantity balance is adjusted between the light source and the original so that the intensive light (IR, R and G components) is not incident to the original and thus there will be less damage to an original which is highly sensitive to heat, etc., such as photographic film.

On the other hand, if the light from the light source is directly incident to the original, the heat especially due to the light from the IR and R components is generated and therefore an elevation in temperature occurs. Accordingly, damage to the original such as photographic film occurs, the damage being more severe as the incident time becomes longer. In order to prevent this, it is possible to cut the IR or R components of the light source. However, this will affect the reading ability so that the R component cannot be cut too much. Thus, it is possible to reduce the damage by sufficiently cutting the IR component, using an IR cut filter with high quality.

With respect to this, for example, thinking on the basis of a halogen light source, compared to the cutoff properties of the IR component in the case where the light quantity balance adjusting means is provided between the light source and the original as in the present invention, the cutoff properties of the IR component which is not being so is about 0.6 D in density (a ground is the ratio of the B component and the R component of the negative film). Therefore, when comparing the situation where the light quantity balance adjusting means is provided with the situation where there is no light quantity balance adjusting means, it is necessary to strictly perform the IR cut.

With regard to dependent claims 2, 3 and 5-16, Applicant respectfully submits that these claims are allowable due to their respective dependence on allowable independent claims 1 and 4, as well as due to the additional recitations in these claims.

With regard to the Imoto reference, this reference has been relied on for a teaching of the spectral sensitivity changing means recited in claims 10-13. This reference fails to disclose the location of the filter section 25 and therefore fails to make up for the deficiencies of Kusumoto et al. and Tatsumi.

With specific regard to dependent claim 14, this claim requires the recitation "wherein said peak value changing means of said spectral sensitivity distribution will not operate in a reference type of the original." In the Examiner's Office Action, the Examiner asserts that the combination of Kusumoto et al. and Tatsumi disclose this aspect of the present invention and therefore render dependent claim 14 obvious.

While not commenting on the appropriateness of the Examiner's rejection, it is pointed out that claim 14 depends on claim 11, which depends on claim 10. In view of this, dependent claim 10 requires the "spectral sensitivity changing means ..." recited in dependent claim 10.

In the Examiner's Office Action (page 5, paragraph 5), the Examiner recognizes that Kusumoto et al. fails to disclose the "spectral sensitivity changing means ..." recited in dependent claim 10. Therefore, it is not understood how the Examiner can take the position that the combination of Kusumoto et al. and Tatsumi disclose dependent claim 14, when the "spectral sensitivity changing means ..." of dependent claim 10 is also required by this claim. It is therefore respectfully requested that the Examiner clarify the rejection of dependent claim 14 under 35 U.S.C. § 103 in view of the Kusumoto et al. and Tatsumi references.

In view of the above amendments and remarks, Applicant respectfully submits that claims 1-17 clearly define the present invention over the references relied on by the Examiner. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103 are respectfully requested.

CONCLUSION

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently pending rejections and that they be withdrawn.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

Applicant respectfully petitions under the provisions of 37 C.F.R. § 1.136(a) and § 1.17 for a one-month extension of time in which to respond to the Examiner's Office Action. The Extension of Time Fee in the amount of **$110.00** is attached hereto.

In the event there are any matters remaining in this application, the Examiner is invited to contact Paul C. Lewis, Registration No. 43,368 at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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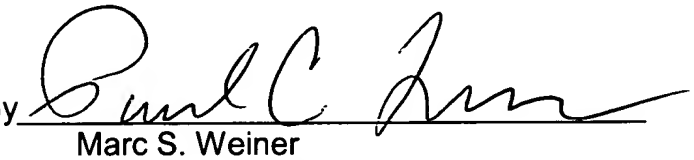
By 

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Attachments